



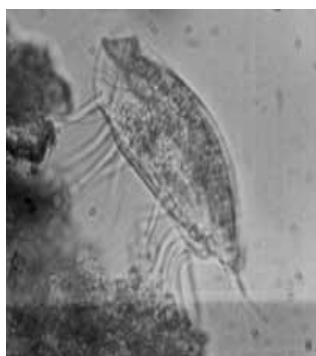
WATER RESOURCES REVIEW

"To create community through responsive leadership and services for the citizens and visitors of the Apple Capital of the World."

Public Works
Environmental Division
25 North Worthen, PO Box 519
Wenatchee, WA 98807-0519
(509) 664-3360

INSIDE THIS ISSUE:

Wastewater 101	1
Draining A Swimming Pool	2
What Is That In My Faucet Screen!	3
Wenatchee's New Website	3
Impact of Driveway Car Washing	4
Paint Disposal	5



Euplotes Ciliate— a single celled wastewater treatment organism that has the ability to walk

WASTEWATER 101

Think of yourself, a citizen of Wenatchee, as a cell of a functioning organism. The wastewater line from your home is a tiny capillary that is a part of a large system of arteries which converge into a main artery. This main artery carries flow to the wastewater treatment plant before it dumps into the heart called the Columbia River. And as in health science, so it goes in this system...certain unhealthy practices can cause clogging of the arteries, damage the liver, and put strain on the heart.

The wastewater treatment plant, located on the river below the Convention Center, could be compared to the liver in that it treats the wastewater and prepares it for release into the Columbia River. The treatment plant staff includes: two maintenance employees, four operators, two collection people (think of them as field doctors), and a lab technician. Outside their workplace door is the culmination of everything that goes into the sewer drains, much like a giant water feature. The influent as we call it, includes shower, dishwasher and toilet water and all that dwells therein – fats and greases from cooking, human

wastes, soaps, bits of food, and sometimes things that make you stop and scratch your head – “how did that get in here?” In addition, businesses within the City – restaurants, auto shops, medical facilities, fruit product and manufacturing industries, just to name a few – all contribute to the influent.

Roughly 3 million gallons flow into the treatment plant daily. The plant is in operation 24 hours a day. After an initial screening to remove as many of the solid items as possible, the stream is pumped into a series of ponds or basins. Each basin has a specific function, and the operators much like trained medical professionals monitor and make adjustments to create the best conditions for those functions. Part of their task is running the equipment that separates solids from liquids (solids going to the “digesters” and liquids going to basins). In addition, they adjust the system so as to optimize the conditions that will create the best environment to maintain and cultivate bacteria and wastewater organisms. Amazingly, it's just these microscopic bugs that quickly break down the organic matter.



Rotifer—most are recognized as animals even though they are a microorganism

But the organisms do require some respect, which is why the City employs three environmental technicians that assist in keeping a balance by monitoring businesses and educating homeowners. We the liver (back to the body again) are adversely affected by chemicals, solvents, gasoline, oil, paints, and other toxic materials. These agents can create problems at the plant just as they do in the human body. A high enough concentrate will maim or kill our innocent bugs and take out our ability to assist them in doing what they were born to do.

A responsible citizen might ask – who's making sure that our final product (effluent) is non-polluting and Columbia River fish-friendly? It is your dedi-

Continued on page 2

The City of Wenatchee Public Works Department
is moving Fall of 2008!
Our new address will be 1350 McKittrick Street



WASTEWATER 101 CONTINUED...

cated treatment plant staff. The Department of Ecology (DOE) issues standards that limit what we are allowed to discharge into the river. Lab tests are conducted on the effluent water to en-



Stalks—one of the highest life forms found in waste water, indicating a stable waste water environment

sure compliance with these standards.

The lab technician analyzes the wastewater throughout the treatment system. These tests provide information on the health of the treatment processes and the quality of the effluent. Some of the tests include pH, alkalinity, total suspended solids, fecal bacteria and ammonia. The lab technician also generates data for the operators to make process control adjustments.

The operators must pass certification exams administered by the DOE. There are four levels of exams representing increasing knowledge of wastewater treatment. These certifications ensure that operators can effectively carry out the responsibilities of plant operations. The lab technician as well is required to pass proficiency tests that are

overseen by the DOE. This assures that the technician and testing equipment are operating within acceptable limits.

So the next time you're watching your water leisurely circling the drain, think of us, your silent partner down the road, the recipient of all that you send and remember the host of wastewater bugs that work tirelessly on your behalf that depend on you to make their life span as pleasant and productive as possible. They require no pay, nor even a break, and only ask that you think about them as you might your own body and use your best judgment in regards to what's going down your drain.

HAVE A SWIMMING POOL OR SPA TO DRAIN?

Improperly draining a pool or spa can have adverse affects on the sanitary sewer system and the environment. Pool and spa water can contain high levels of chlorine, filter backwash, and other contaminants that could harm local streams and wildlife. Please refer to the table below for the proper method to dispose of pool and spa water prior to draining.



	Discharge to Storm drain/Street	Discharge to Sewer	Discharge to Homeowner's Property
Swimming Pool Water	Only allowed if all of the following requirements are met: 1. The chlorine must be reduced to a level of less than 0.1 milligrams/Liter. 2. The water must be pH-adjusted and re-oxygenated if necessary to comply with Washington State water quality standards. 3. The volume and velocity of the water must be controlled to prevent re-suspension of sediment in the street and storm drain system.	Please contact the Wastewater Treatment Plant at 664-3382 prior to discharging. Advanced notification is needed to prevent sewer overflows.	Okay to discharge.*
Filter Backwash	Prohibited from discharge.	Okay to discharge.	Okay to discharge.*

* Water flowing from your property into the street would be considered a discharge to the storm water system and must then meet those requirements listed under "Storm drain/Street" in this table. Also, allowing water to run onto your neighbor's property could result in a civil dispute. In addition, discharges to the ground may fall under the Underground Injection Control Program (Chapter 173-218 WAC) which is administered by the WA State Department of Ecology. For more information, please contact the regional Ecology office at (509) 575-2490 or visit www.ecy.wa.gov.

WHAT IS THAT IN MY FAUCET SCREEN!

Frequently customers contact the Public Works Department concerned about how safe the water is because white chunks or particles were found in a glass of water or in the kitchen faucet aerator. Water heaters are typically responsible for these particles. The particles are often related to a calcium buildup or a failing dip tube. In both cases, the particles are not considered to cause any health issues.

Dip tubes located inside the water heater are made of a plastic material. The dip tube directs the incoming cold water to the bottom of the tank to prevent the cold water from mixing with the hot water. The difference in temperature causes a stratification inside the water heater; cold water on the bottom and the hot near the top at the hot water supply to the house.

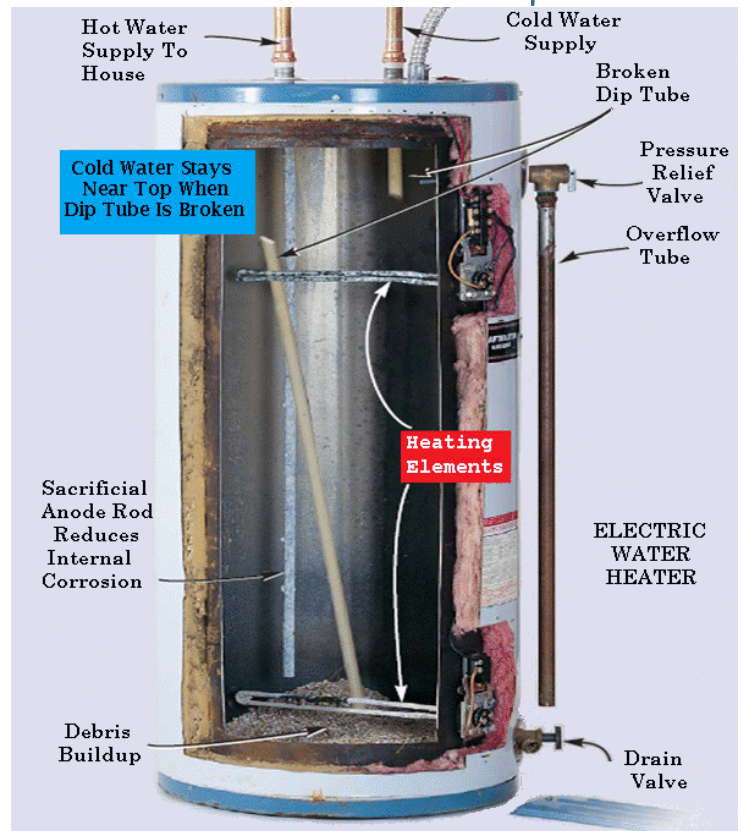
From August of 1993 to October 1996, six major water heater manufacturers were supplied defective dip tubes from a company called Perfection Corporation. The dip tubes were disintegrating and releasing white particles into the hot water lines, plugging plumbing fixtures and faucet screens.

If you have found white particles in your faucet screen, they may not always be a disintegrating dip tube. Faucet screens will also catch other

white particles such as calcium. Calcium particles may also come from water heaters. The City of Wenatchee's water supply contains a very small amount of calcium. Water heaters can cause the calcium to solidify, build up in the bottom of the tank, and then find their way into your faucet strainers and screens.

If you find these mysterious particles in your faucet screen and want to determine if they are calcium or a failing dip tube, put the white particle in a small amount of water. If the particle floats, it likely came from a failing dip tube. Should the particle sink, it may be calcium from the water heater indicating that the tank may need to be cleaned. Another sign that the dip tube may be failing is a reduced amount of hot water. A broken dip tube releases the cold water at the top of the tank rather than directing it to the bottom, resulting in the same symptoms as a faulty heating element. If you suspect your dip tube is fail-

Water Heater with Broken Dip Tube



ing or have other water heater issues, contact your plumber or water heater manufacturer.

A number of people have brought class action lawsuits against the water heater manufacturers and the Perfection Corporation. More information about dip tubes and the lawsuit may be found on the web by searching key words "dip tube failure."



WWW.WENATCHEEWA.GOV

The City of Wenatchee's new web site was launched in December of 2007.

Some new features are:

- The ability to pay your utility bill online
- Current News and Notices
- Upcoming Meeting and Events
- Forms to let us know about environmental or water quality concerns

Please take some time to browse the site. Our goal is to have a site that is helpful and informative for Wenatchee citizens, business owners and visitors to our area.

IMPACT OF DRIVEWAY CAR WASHING

It's a sunny spring day. The birds are singing and the trees are budding. There's no rain in the forecast. So we grab the sponge, bucket, hose and soap to engage in one of those spring rituals: washing the car.



Save the Drain For Rain

We spray down the car and scrub the wheels to wash off the accumulated grime and road salt. We then lather up the car with a couple buckets of soapy water. After pouring out the final bucket of wash water and hosing down the driveway, we admire the car's shine. Then we drive down to the river and take the family dog for a walk. Along the way we pass a group of students washing cars in the school parking lot.....it's a great way to raise money for the student trip. As we're walking the dog along the river we notice a foamy soap-like residue along the bank. So what person would pour soap into the river? Unfortunately each of us that washes a car in a location where the wash water can enter a storm drain is responsible for putting detergents and other contaminants into the river.

wastewater treatment plant, the storm drain system flows directly into our local rivers and streams.

The elements in untreated wash water have a potential of poisoning fish and other marine life in the riverbed. How, you might ask? The surfactants in carwash detergents destroy the external mucus layers protecting fish from bacteria and parasites. The mucus layer is that goopy slime that rubs off on your hands when you pick up a fish. Surfactants also cause severe damage to the gills.

The detergent concentration that will kill fish eggs is much lower than the concentration that will harm fish. Detergents allow organic chemicals, such as pesticides and phenols to be much more easily absorbed by fish. A very small concentration of detergent in the water may cause fish to absorb twice the concentration of these chemicals as normal.

A well known car wash detergent offers a tip to product users on its label: *"Clean your car in an area that allows for evaporation of run-off and prevent entry into storm drains, streams, or any body of water."* What does the manufacturer of this product know that we don't? They know the toxic elements of their cleaners. If the detergent manufacturer recommends their product shouldn't flow to a storm drain, it is because the product is unhealthy for the water bodies it may flow into, in our case the Columbia River.

It's estimated that the average driveway car wash, without a hose nozzle, uses 116 gallons of water. Some municipalities are encouraging fundraising groups to use waterless car wash methods. The more common trend is to require fundraisers to utilize a pump-

ing system that pumps car wash water from a storm drain catch basin to a sewer manhole. In some communities, officials are looking to emulate a program launched by the Puget Sound Car Wash Association. The Association sells discounted tickets for commercial carwashes to fundraising groups, who then resell the tickets to auto owners to have their cars washed commercially.

It should be noted that commercial car lots and car rental agencies are no longer allowed to wash automobiles on lots which discharge to storm drains. They are encouraged to use a commercial car wash or install a system that flows to the municipal sewer. Commercial carwash facilities often recycle their water and are required to treat their wash water prior to release to the sanitary sewer; so most storm water impacts from car washing are from residents, businesses and charity car wash fundraisers that discharge polluted wash water to the storm drain system.

So the next time you see a dirty car in the parking lot, don't write "Wash Me" on it, write "Take Me to the Carwash." Our local rivers and streams will thank you for it!!!

Recommendations for Washing Your Automobile

- Use a commercial car wash.
- Wash your car on gravel, grass or other permeable surfaces.
- Use a hose with a nozzle that automatically turns off when left unattended.
- Block off the storm drain during charity car wash events or using an insert to catch wash water; pump wash water from car washes into a sanitary sewer drain.
- If pumping into a drain is not feasible, pump car wash water onto grass or landscaping to provide filtration.
- Use biodegradable soaps.

Car wash water from residential and fundraising activities is typically allowed to run down the street or parking lot and into the nearest storm drain. This detergent-rich water has the potential to contain high levels of nutrients, metals and hydrocarbons. Just imagine what is in wheel cleaner and all the brake dust it removes. Unlike the sewer system which flows to the

**WHEN YOU'RE WASHING YOUR CAR IN
THE DRIVEWAY, REMEMBER YOU'RE
NOT JUST WASHING YOUR CAR
IN THE DRIVEWAY.**



Developed by the Puget Sound Action Team, Department of Ecology, King County, and the cities of Bellevue, Seattle, and Tacoma

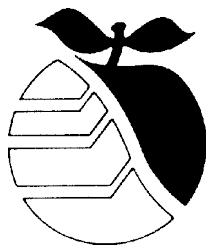
City of Wenatchee

Mayor
Dennis Johnson

City Council
Jim Bailey
Carolyn Case
Don Gurnard
Mark Kulaas
Craig Larsen
Doug Miller
Karen Rutherford

City Council Meetings
2nd & 4th Thursday
5:15 PM at City Hall
129 South Chelan Ave

For more information
please contact the
Vicki Reister,
City Clerk
at 888-6204.



The Water Resources Review
was written and edited by:

Jessica Shaw
Utilities & Environmental Manager

Brian McDaniel
Quality Control Technician

Paula Salter
Environmental Technician

Brad VanderVeer
Environmental Technician

Katy Landers
Laboratory Technician

PAINT DISPOSAL

You finish painting your house, stand back to admire your handiwork, and then think about cleaning up. Should you:

- Dump your leftover paint and wash your brushes into a storm drain - NEVER!!
- Toss everything including the remaining paint into the garbage thinking that you will buy everything new next time you paint - NO!!
- Wash everything out in the sink, including the partial can of paint - NO!!
- Save the paint for touchups and wash your brushes out in the sink - MAYBE

If working with oil based paint, the paint and all solvents used for cleanup need to be managed properly. These products should never be dumped in a storm drain or down the sink to the sewer system. After cleanup, allow the paint solids to settle to the bottom of the container of used solvent. Once the solids have settled, the clear solvent can be poured off the top and saved to be reused for cleanup at a later time. The solids that are left must be disposed of as dangerous waste, not in the garbage. If the paint is no longer needed it must be disposed of as dangerous waste due to its flammability and the presence of hazardous substances. Chelan County's Household Hazardous Waste Collection Event is a great place to take used solvent and

oil based paints. It occurs every year on the first Saturday in October.

If latex paint was used, the cleanup and disposal is easier. Brushes and rollers



can be washed out in a sink; but the amount of paint going down the drain should be minimized. The paint itself is not allowed in the sewer system.

Save partial cans of paint for touchups. The best way to store latex paint is upside down with plastic wrap under the lid to extend the life of the paint. Empty paint cans can be disposed of in the garbage. If paint is remaining, it must be hardened prior to disposal in the garbage. One way to harden the paint is to leave the lid off and let it dry out. Another way would be to add some kitty litter to absorb the moisture.

If you over estimated the amount of paint needed for the job, there are a couple of different ways to dispose of the paint. Check with the store that you bought the paint from; sometimes unopened paint can be returned. Compatible light colored paints can be mixed together and used as a primer or undercoat for another project. Finally, consider donating your unused paint to charities and nonprofit groups.

DO ...

- Remove as much paint as possible from rollers and brushes before rinsing.
- Soak brushes in a bucket of water before washing to conserve water.
- Use disposable liners to cut down on the amount of equipment that needs to be cleaned.
- Seal and store leftover paint for touchups.





Working together through education to help protect
the water resources in the Wenatchee Valley

Questions and Comments...

To provide comments or if you have questions regarding this publication, or any of the featured utility programs, please call the City of Wenatchee Environmental Division at 664-3360.

Postal Customer

ECRWSS

PRSTD STD
US POSTAGE
PAID
Wenatchee, WA
PERMIT NO. 001

City of Wenatchee
Water Resources Division
25 N. Worthen, P.O. Box 519
Wenatchee, WA 98807-0519